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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,746	06/20/2005	Naoya Shibata	2005-1012A	5877
513	7590	01/28/2008	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			CHOI, LING SIU	
2033 K STREET N. W.			ART UNIT	PAPER NUMBER
SUITE 800			1796	
WASHINGTON, DC 20006-1021			MAIL DATE	DELIVERY MODE
			01/28/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/539,746	SHIBATA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Ling-Siu Choi	1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 October 2007.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
  - 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 June 2005 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>8/25/05, 6/20/05</u> .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

1. This Office Action is in response to the Response to the Election/Restriction filed 10/19/2007. Claims 1-15 are now pending, wherein claims 1-9 have been elected.

### ***Claim Objections***

2. Claims 1-9 are objected to because of the following informalities: (A) Claim 1, line 2, "characterized in that" is suggested to be changed to --wherein-- and (B) Claim 9, lines 15-16, "said ester is exemplified by acid halide, C<sub>1</sub>-C<sub>4</sub> alkyl ester and other active ester)" is suggested to be changed to --which includes acid halide, C<sub>1</sub>-C<sub>4</sub> alkyl ester and other active ester--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. **The following is a quotation of the second paragraph of 35 U.S.C. 112:**  
**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

4. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, lines 15-16, the recitation "(said ester is exemplified by acid halide, C<sub>1</sub>-C<sub>4</sub> alkyl ester and other active ester)" causes indefiniteness because acid halide is not commonly classified as ester and other active ester is not defined.

### ***Claim Analysis***

5. Summary of Claim 1:

A process to produce fluorescent substance-containing latex polymer particles	
	wherein polymerization reaction is conducted in an aqueous medium while the aqueous medium is stirred, said aqueous medium comprises:
i	one or more kinds of latex-forming monomers,
ii	a macromer which has, on one terminal, a polymerizable ethylenic group and has, on the other terminal, a hydrophilic polymer segment which is linked or not linked by a hydrophobic polymer segment,
iii	a radical polymerization initiator, and
iv	an inorganic fluorescent substance or an inorganic contrast medium.

### ***Claim Rejections – 35 USC § 102***

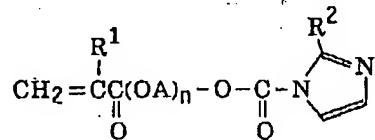
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

7. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki et al. (JP 08-133990).

Miyazaki et al. disclose a microsphere comprising a copolymer of (A) a (poly)oxy alkylene derivative of the formula:



with OA = a C<sub>2-4</sub> oxyalkylene; n = 1-1000; R<sup>1</sup> and R<sup>2</sup> = H or CH<sub>3</sub>, which is obtained by reacting a mono(meth)acrylic ester of a (poly) alkylene glycol with N,N'- carbonyl imidazole and (B) a hydrophobic radically polymerizable monomer such as styrene, wherein the microsphere is obtained by polymerizing a compound of the formula with the radically polymerizable monomer in water or a mixed solvent of the water with ethanol in the presence of a radical polymerization initiator at 10-60°C for 1-24 hours (abstract). Miyazaki et al. further disclose a process to contact ninhydrin (2,2-dihydroxy-1,3-indanedione) and hydrindantin with the microsphere having BSA (cow serum albumin) fixed thereon ([0037]-[0038]). Thus, the present claims are anticipated by the disclosure of Miyazaki et al.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kataoka et al. ( US 6,881,484 = EP 1 398 635 A1) and Matsuya et al. [Anal. Chem., 75, 6124-6132 (2003)].

Kataoka et al. disclose a core-shell particle comprising a signal-generating substance therein as a labeling substance, wherein the core-shell particle comprising a block copolymer of a water-insoluble segment and a water-soluble segment and is obtained by the steps comprising (A) synthesis of acetal-PEG-PLA-methacryloyl - ring-polymerizing ethylene oxide, then adding THF solution of DL-lactide, and finally adding anhydrous methacrylic acid to obtain the acetal-PEG-PLA-methacryloyl:  
$$(\text{CH}_3\text{CH}_2\text{O})_2\text{CHCH}_2\text{CH}_2\text{O} - (\text{CH}_2\text{CH}_2\text{O})_m - [(\text{C}=\text{O})\text{CH}(\text{CH}_3)\text{O}]_{2n} - (\text{C}=\text{O})-\text{C}(\text{CH}_3)=\text{CH}_2$$
  
(B) synthesis of an aldehyde-functionalized PEG-coated particle - polymerizing the acetal-PEG-PLA-methacryloyl and styrene in the presence of azobisisobutyronitrile (AIBN) and water; and adding NaOH to deprotect the protecting acetal groups and introduce aldehyde groups to the surface area to form an aldehyde-functionalized block polymer-styrene particles; and (C) preparation of an europium chelate-containing particle – contacting an aqueous solution of europium chloride hexahydrate with a suspension of the aldehyde-functionalized block polymer-styrene particles, wherein europium chelate is a fluorescent substance ([0033]; [0045]-[0054]). Kataoka et al. further disclose that “[t]hese reactive functional groups are not particularly limited....for example, aldehyde, carboxyl, mercapto, amino, maleimide, vinylsulfone, and methane sulfonyl groups, and preferably, aldehyde, amino, carboxyl, and maleimide groups”

(([0023])). It is noted that the filing date is later than the prior date claimed in the present invention.

Matsuya et al. disclose a core-shell-type fluorescent nanosphere obtained by (A) preparation of vinylbenzyl-PEG-NH<sub>2</sub> macromonomer – contacting vinylbenzyl alcohol and THF in the presence of potassium naphthalene to form vinylbenzylalkolate; further contacting with an ethylene oxide to form vinylbenzyl PEG macromonomer; and subsequently contacting with triethylamine to form vinylbenzyl-PEG-NH<sub>2</sub>; (B) preparation of NH<sub>2</sub> nanosphere – polymerizing the vinylbenzyl-PEG-NH<sub>2</sub> and styrene in the presence of AIBN dispersed in distilled water to form NH<sub>2</sub> nanosphere; and (C) preparation of chelated Eu<sup>3+</sup> ion-incorporated NH<sub>2</sub> nanosphere – adding an Eu<sup>3+</sup> solution containing EuCl<sub>3</sub>•H<sub>2</sub>O, 4,4,4-trifluoro-1-(2-thienyl)-1,3-butanedion, and tri-n-octylphosphine oxide to the NH<sub>2</sub> nanosphere suspension to form a fluorescent NH<sub>2</sub> nanosphere (page 6126). It is noted that the publication date is later than the priority date.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Art Unit: 1796

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*Ling-Sui Choi*  
LING-SUI CHOI  
PRIMARY EXAMINER

January 22, 2008